COMP 3005 A Fall 2013 Database Management Systems

Course Outline

<table>
<thead>
<tr>
<th>Lectures</th>
<th>Tuesdays and Thursdays: 8:30-10:00 location: Tory 360</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>Louis Nel</td>
</tr>
</tbody>
</table>

Calendar Description:

Introduces students to concepts of database management systems, database design and file structures. Topics include: entity-relationship modeling and object oriented database design, data models (relational, network and object oriented), the relational algebra, SQL, normalization theory, physical data organization, object oriented databases and OQL.

Precludes additional credit for BUSI 3400. Prerequisite(s): COMP 2402, or both of SYSC 2004 and SYSC 2100. Lectures three hours a week.

Course Description:

The course covers the principles involved in the design and implementation of relational databases primarily. The assignments will provide practice in the specification, design, and implementation of a relational database. Course topics include:

Topics:

- Introduction to Relational Database Systems
- Entity-Relationship Models
- Relational Data Model and Query Models
- Relational Database Design and Normalization
- SQL
- Physical Database Organization and Implementation
- Optional Topics (Time permitting):
  - Transaction Processing Concepts
  - Concurrency Control Concepts

Textbook:

The course will be taught from lecture slides available to students on the course web site in .pdf form. The course notes are based largely on the reference text

http://people.scs.carleton.ca/~ldnel/3005fall2013/3005fall2013outline.html
below. Copies of the text should be available in the book store. Please ensure you get the latest copy of the course notes since they will have been modified since the last offering of the course. The recommended textbook is: Elmasri and Navathe, "Fundamentals of Database Systems" 6th edition (or later), Addison Wesley.

**Laboratory/Software:**

We will use SQLite for our programming assignments. Students will load this on their own machines.

**Assignments and Tutorials:**

We will be using electronic submission of assignments using the new CULearn system (www.carleton.ca/culearn). Electronic submission enforces strict deadlines. No assignments will be accepted by email or in other forms.

**Teaching Assistants:**

A schedule for TAs will be posted on the course web site as soon as they become available.

**Marking Scheme:**

<table>
<thead>
<tr>
<th>deliverable</th>
<th>value</th>
<th>comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>50%</td>
<td>4 assignments equally weighted</td>
</tr>
<tr>
<td>Midterm</td>
<td>10%</td>
<td>in class date TBA</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
<td></td>
</tr>
</tbody>
</table>

Missed assignments or tests will score 0 unless it is for a medical, or similar, reason and is accompanied by official medical documentation. If your final exam mark is better than the midterm mark I will replace the midterm mark with the final exam mark. Also if you wish to appeal an assignment or midterm mark you must make the appeal within two weeks of the assignment mark being posted. Cheating, or Copying, is not allowed. Any two assignments judged to be too similar will both receive a grade of 0, and will be handled as a formal instructional offence -see calendar for details.

**Course Web Page:**

http://people.scs.carleton.ca/~ldnel/3005fall2013/3005fall2013outline.html
IMPORTANT UNIVERSITY POLICIES

Student Academic Integrity Policy

Every student should be familiar with the Carleton University student academic integrity policy. A student found in violation of academic integrity standards may be awarded penalties which range from a reprimand to receiving a grade of F in the course or even being expelled from the program or University. Some examples of offences are: plagiarism and unauthorized co-operation or collaboration. Information on this policy may be found in the Undergraduate Calendar, Section 14, Page 59.

Plagiarism

As defined by Senate, "plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one’s own". Such reported offences will be reviewed by the office of the Dean of Science.

Unauthorized Co-operation or Collaboration

Senate policy states that "to ensure fairness and equity in assessment of term work, students shall not co-operate or collaborate in the completion of an academic assignment, in whole or in part, when the instructor has indicated that the assignment is to be completed on an individual basis". Please refer to the course outline statement or the instructor concerning this issue.

Academic Accommodation

You may need special arrangements to meet your academic obligations during the term because of disability, pregnancy or religious obligations. Please review the course outline promptly and write to your instructor concerning any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. It takes time to review and consider each request individually, and to arrange for accommodations where appropriate. Please make sure you respect these timelines particularly for in-class tests, midterms and final exams, as well as any change in due dates for papers. You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at http://carleton.ca/equity/accommodation

http://people.scs.carleton.ca/~ldnel/3005fall2013/3005fall2013outline.html
Students with Disabilities Requiring Academic Accommodations Register with the Paul Menton Centre for Students with Disabilities (PMC) for a formal evaluation of disability-related needs. Documented disabilities could include but are not limited to mobility/physical impairments, specific Learning Disabilities (LD), psychiatric/psychological disabilities, sensory disabilities, Attention Deficit Hyperactivity Disorder (ADHD), and chronic medical conditions. Registered PMC students are required to contact the PMC, 613-520-6608, every term to ensure that I receive your Letter of Accommodation, no later than two weeks before the first assignment is due or the first in-class test/midterm requiring accommodations. If you only require accommodations for your formally scheduled exam(s) in this course, please submit your request for accommodations to PMC by the deadlines published on the PMC website: http://www2.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/

Religious Obligation

Write to your instructor concerning any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website http://www.carleton.ca/equity/accommodation/student_guide.htm

Pregnancy Obligation

Write to your instructor concerning any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website http://www.carleton.ca/equity/accommodation/student_guide.htm

Medical Certificate

The following is a link to the official medical certificate accepted by Carleton University for the deferral of final examinations or assignments in undergraduate courses. To access the form, please go to http://www2.carleton.ca/registrar/forms/